SANTA CRUZ BIOTECHNOLOGY, INC.

HLA-DP (BRAFB6): sc-33719

BACKGROUND

Major histocompatibility complex (MHC) class II molecules destined for presentation to CD4+ helper T cells is determined by two key events. These events include the dissociation of class II-associated invariant chain peptides (CLIP) from an antigen binding groove in MHC class IIa/b dimers through the activity of MHC molecules HLA-DM and -DO, and subsequent peptide antigen binding. Accumulating in endosomal/lysosomal compartments and on the surface of B cells, HLA-DM and -DO molecules regulate the dissociation of CLIP and the subsequent binding of exogenous peptides to HLA class II molecules (HLA-DR, -DQ and -DP) by sustaining a conformation that favors peptide exchange. RFLP analysis of HLA-DM genes from rheumatoid arthritis (RA) patients suggests that certain polymorphisms are genetic factors for RA susceptibility. HLA-B belongs to the HLA class I heavy chain paralogs. Class I molecules play a central role in the immune system by presenting peptides derived from the endoplasmic reticulum lumen. HLA-B and C can form heterodimers consisting of a membrane anchored, heavy chain and a light chain (β-2-Microglobulin). Polymorphisms yield hundreds of HLA-B and C alleles.

REFERENCES

1. Heyes, J., et al. 1986. Monoclonal antibodies to HLA-DP-transfected mouse L cells. Proc. Natl. Acad. Sci. USA 83: 3417-3421.
2. Kropshofer, H., et al. 1998. A role for HLA-DO as a co-chaperone of HLA-DM in peptide loading of MHC class II molecules. EMBO J. 17: 2971-2981.
3. Siegmund, T., et al. 1999. HLA-DMA and HLA-DMB alleles in German patients with type 1 diabetes mellitus. Tissue Antigens 54: 291-294.
4. Arndt, S.O., et al. 2000. Functional HLA-DM on the surface of B cells and immature dendritic cells. EMBO J. 19: 1241-1251.

CHROMOSOMAL LOCATION

Genetic locus: HLA-DPB1 (human) mapping to 6p21.32.

SOURCE

HLA-DP (BRAFB6) is a mouse monoclonal antibody raised against Reh-6 cells (non-T, non-B leukemia cell line).

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HLA-DP (BRAFB6) is available conjugated to either phycoerythrin (sc-33719 PE) or fluorescein (sc-33719 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

HLA-DP (BRAFB6) is recommended for detection of HLA-DP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10^6 cells).

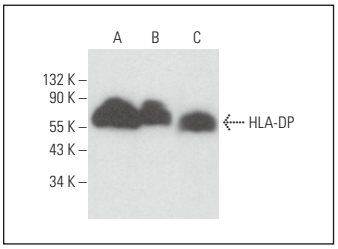
Molecular Weight of HLA-DP: 29 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, NAMALWA cell lysate: sc-2234 or Ramos cell lysate: sc-2216.

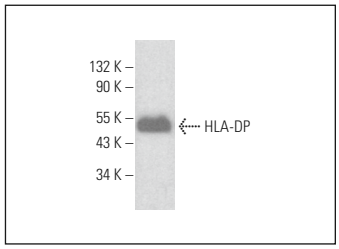
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



HLA-DP (BRAFB6): sc-33719. Western blot analysis of HLA-DP expression in BJAB (**A**), NAMALWA (**B**) and IB4 (**C**) whole cell lysates.



HLA-DP (BRAFB6): sc-33719. Western blot analysis of HLA-DP expression in Ramos whole cell lysate.

SELECT PRODUCT CITATIONS

1. Thomas, R., et al. 2012. A novel variant marking HLA-DP expression levels predicts recovery from hepatitis B virus infection. J. Virol. 86: 6979-6985.
2. Tamai, T., et al. 2020. A novel α-fetoprotein-derived helper T-lymphocyte epitope with strong immunogenicity in patients with hepatocellular carcinoma. Sci. Rep. 10: 4021.
3. Sugata, K., et al. 2021. Affinity-matured HLA class II dimers for robust staining of antigen-specific CD4+ T cells. Nat. Biotechnol. 39: 958-967.
4. Yao, J., et al. 2022. The histone deacetylase inhibitor I1 induces differentiation of acute leukemia cells with MLL gene rearrangements via epigenetic modification. Front. Pharmacol. 13: 876076.
5. Yajima, Y., et al. 2022. A tumor metastasis-associated molecule TWIST1 is a favorable target for cancer immunotherapy due to its immunogenicity. Cancer Sci. 113: 2526-2535.
6. Li, F., et al. 2022. Jiyuan oridonin A induces differentiation of acute myeloid leukemia cells including leukemic stem-like cells. Front. Pharmacol. 13: 1001552.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.